CLAIMS

1. A two phase motor of small size formed by a stator (2) carrying two power supply windings (20, 22) and a rotor (4) provided with a bipolar permanent magnet (6), the said stator defining a first principal magnetic pole (8), a second principal magnetic pole (10) and a third principal magnetic pole (12) which together define a stator aperture (40) in which the said bipolar magnet is housed, the said first and second principal poles being connected to the third principal pole by two magnetic cores (16, 18) respectively, each carrying one of the two windings, characterized in that the said third principal pole (12) defines two adjacent secondary poles (26, 28) separated in a peripheral region at the said stator aperture by a region (30) of high magnetic reluctance and connected to one another by a stator part (36) of high magnetic permeability, the said first and second principal poles and the said two secondary poles being distributed in four sectors of circle of about 90° around the said stator aperture.

2. A two phase motor according to claim 1, characterized in that the said region (30) of high magnetic reluctance separating the two secondary poles (26, 28) is defined by a blind slot opening into the said stator aperture.

3. A two phase motor according to claim 1 or 2, characterized in that the said three principal magnetic poles are formed by three planar parts which extend in the same general plane.

4. A two phase motor according to any of the preceding claims, characterized in that the said stator is formed of an iron-silicon alloy.

5. An indicator device of the value of a measured physical magnitude in a moving automobile vehicle, the device having an analog display and being characterized in that it comprises a motor according to any of the preceding claims for driving the said analog display.

6. A method of making a motor of small size having a stator (2) with several magnetic poles (8, 10, 26, 28) around an aperture (40) provided for the permanent magnet rotor, the method comprising the following successive steps:

- cutting out a plate (72) formed of a magnetic material so as to define the said aperture for the rotor and the several magnetic poles which extend in the same general plane, these poles defining the pole pieces separated by slots in the peripheral region of the said aperture, at least a part of the said slots being blind so that the said magnetic poles remain formed physically by single part (72) at this stage;

- applying an annular element (80) to the said cut out plate (72) in a manner centred relative to the said aperture, the said slots and this annular element being

arranged in such a manner that the latter passes over the slots and these extend beyond the external contour of the said annular element, this element at least partially covering the several magnetic poles and being formed of a non-magnetic or weakly magnetic material relative to the said plate of magnetic material;

- fixing the said annular element to the several magnetic poles;

- cutting the said plate in such a manner as to extend at least two of the said blind slots to obtain through slots magnetically separating at least one of the magnetic poles from the other poles of the stator (20) thus formed.

7. A method according to claim 6, characterized in that the said fixing of the said annular element is effected by laser welding.

8. A method according to claim 7, characterized in that the said welding is effected through the said annular element, the laser beam being directed on to the upper face of this element relative to the said plate.

9. A method according to claim 7 or 8, characterized in that the said annular element is made of a non-magnetic or weakly magnetic metal.

10. A method according to claim 9, characterized in that the said annular element is of stainless steel.